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National Energy Board

Reasons for Decision


The Manitoba Hydro-Electric Board

Application dated 14 March 1991
for permits to export firm power
and energy as diversity
exchanges

EW-1-91

June 1992





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Recital and Intervenors

IN THE MATTER of the *National Energy Board Act* and the Regulations made thereunder, and

IN THE MATTER of an application dated 14 March 1991 by The Manitoba Hydro-Electric Board for authorization to export electricity under Part VI of the said Act, filed with the Board under File Number 6200-M020-1.

EXAMINED by means of written submissions.

BEFORE:

K.W. Vollman	Presiding Member
J.-G. Fredette	Member
A.B. Gilmour	Member

INTERVENORS:

Ken Emberley

Energy Brokers Canada Inc.

Ministry of Energy, Mines and Petroleum Resources
of the Province of British Columbia

North American Water Office

* Ontario Hydro

TransAlta Utilities Corporation

* The only intervenor to present a submission

Abbreviations

Units of Measurement

kW.h	kilowatt hour	1 000 watt hours
GW.h	gigawatt hour	1 000 000 kW.h
TW.h	terawatt hour	1 000 GW.h
kV	kilovolt	1 000 volts
MW	megawatt	1 000 000 watts

Names

Act	National Energy Board Act
Board	National Energy Board
Electricity Regulations	The draft National Energy Board Electricity Regulations
MAPP	Mid-Continent Area Power Pool
MEA	Manitoba Energy Authority
Memorandum of Guidance	The National Energy Board's 22 June 1990 Memorandum of Guidance to Interested Parties Concerning Full Implementation of the September 1988 Canadian Electricity Policy
MH, or the Applicant	The Manitoba Hydro-Electric Board
NSP	Northern States Power Company
OH	Ontario Hydro
UPA	United Power Association

This report describes the information examined by the National Energy Board ("the Board") and the conclusions reached in its review of the application by The Manitoba Hydro-Electric Board ("MH" or "the Applicant") dated 14 March 1991 requesting the authorization of various exports of electricity. The purpose of the review was to determine whether to issue the requested authorizations without a public hearing, or to recommend to the Minister of Energy, Mines and Resources that the Governor in Council designate the application for licensing, which would necessitate a public hearing.

1.1 Procedures Followed in Reviewing the Application

As part of its review, the Board sought the views of interested parties, including the general public, which it considered, along with the application, other information that the Board required the Applicant to furnish and the Applicant's responses to the submissions received from interested parties. Board Order EW-1-91 dated 23 July 1991, as amended by Order AO-1-EW-1-91, dated 22 November 1991, established the procedure for obtaining the views of interested parties on MH's application.

The review procedure was in accordance with the Board's 22 June 1990 Memorandum of Guidance to Interested Parties Concerning Full Implementation of the September 1988 Canadian Electricity Policy ("Memorandum of Guidance"). The review also considered the Board's 28 June 1990 Memorandum of Guidance to All Companies Under the Board's Jurisdiction and Other Interested Parties regarding Public Notification of Proposed Applications for Issuance of a Certificate, an Order or Authorization to Export Pursuant to Sections 52, 58, 58.11, 58.16, 117, 119.03 and 119.08 of the National Energy Board Act.

In its review of the application, the Board ensured that its information requirements, set out in Section 119.03 of the *National Energy Board Act* ("the Act") and in the draft *National Energy Board Electricity Regulations* ("the Electricity Regulations"), attached as Appendix I to the Memorandum of Guidance, were met.

In conducting the review, the Board sought to avoid duplication of measures taken in respect of the export by the Applicant and by the Government of Manitoba and had regard to all considerations that appeared to it to be relevant. These considerations included:

- a) the effect of the exports on provinces other than Manitoba;
- b) the impact of the exports on the environment; and
- c) whether the Applicant has
 - (i) informed those who have declared an interest in buying electricity for consumption in Canada of the quantities and classes of service available for sale; and
 - (ii) given an opportunity to purchase electricity on terms and conditions as favourable as the terms and conditions specified in the application to those who, within a reasonable time after being so informed, demonstrate an intention to buy electricity for consumption in Canada; and

- d) such considerations as are specified in the Electricity Regulations.

The process described in paragraph (c) is referred to hereafter as providing fair market access.

1.2 Environmental Screening of the Proposed Exports

The Board's review of the application included consideration of the impact of the export proposals on the environment as required under paragraph 119.06 (2) (b) of the Act. In addition, the review incorporated a screening of the environmental effects of the proposals in accordance with those requirements of the *Environmental Assessment and Review Process Guidelines Order* which did not duplicate any portion of the Board's own regulatory process.

In respect of the assessment of the impact of the proposed exports on the environment pursuant to paragraph 119.06 (2) (b) of the Act, the Board was governed by the judgement of the Federal Court of Appeal in the case of the Attorney General of Québec v. National Energy Board dated 9 July 1991.¹

The judgement stated that "in considering an application for leave to export electricity, the Board must be concerned about the environmental consequences, since the public interest is involved. The Board's function in this respect is in any case confirmed in several enactments. However, the only question can be as to the environmental consequences of the export, namely the consequences for the environment of "[sending] from Canada...power produced in Canada". The judgement also stated that "the factors which may be relevant in considering an application for leave to export electricity and the conditions which the Board may place on its leave clearly cannot relate to anything but the export of electricity." It further specifically stated that "it seems clear that, as it is understood in the Act with respect to electricity, export does not cover production itself."

The Board considers that it addresses the environmental impact of the sending from Canada of exports of electricity in its review of applications by the utility concerned for certificates to construct and operate international power lines or to alter existing international powerlines. That review includes an examination of the impact on the environment of the operation of the line at its maximum capacity.

1.3 The Applicant's Public Notification Procedures

The Board notes that MH undertook the following procedures to address the matter of Public Notification:

- i) The proposed exports were included in MH's Submission to the Public Utilities Board in Respect of Major Capital Projects which was reviewed by the Public Utilities Board ("PUB") of Manitoba in a public hearing which concluded in October 1990.

In this process two notices were published in newspapers throughout the province and served on interested parties. The first, dated 28 February 1990, announced the review and the second, dated 29 May 1990, gave details of the process. MH sent an additional notice to its customers respecting the matter. Interested parties were allowed to review MH's proposals and, if they wished to take a position in respect of the proposals, could apply for intervenor status. No private individuals appeared as intervenors, however, the organizations listed below were given intervenor status:

1 - On 11 July 1992, leave to appeal the judgement of the Federal Court of Appeal was granted to the Québec Cree by the Supreme Court of Canada.

- Consumers Association of Canada (Manitoba) / Manitoba Society of Seniors
 - Concerned Citizens of Manitoba Inc. / Sierra Club of Western Canada (Manitoba) / Conservative Strategy Association of Manitoba Inc.
 - Manitoba Industrial Power Users Group
 - Northern Flood Committee
 - Community Association of South Indian Lake Inc.
 - Manitoba Keewatinowi Okimakanak Inc.
- ii) MH published notices describing the proposed application in five newspapers in Manitoba, two in Ontario (including the Canada Gazette), and two in Saskatchewan between 22 March and 30 March 1991. The notice offered to respond to questions or provide additional information. Finally, MH had intended to advise its customers of the application by including a customer information notice with a monthly billing statement at the time of the application but this was inadvertently delayed to the period from 13 December 1991 to 14 February 1992. Like the advertisement, the notice offered to provide more information upon request.
- iii) MH published the Notice of Application in various newspapers in accordance with the requirements of Board Order EW-1-91.

2.1 The Applicant

MH is a Crown Corporation established in 1949 by the Manitoba Legislature. It has broad powers to provide electricity throughout the province and operates under the *Manitoba Hydro Act*, being Chapter H 190 of the Revised Statutes of Manitoba, 1987.

MH owns and operates the facilities which serve all of the Province of Manitoba with the exception of a portion of the City of Winnipeg which is served by the city-owned Winnipeg Hydro. MH and Winnipeg Hydro operate an integrated system to supply the province from fourteen hydro plants and two thermal plants. The total capacity of the existing hydro plants as of 14 March 1991 was 3 948 MW (including 400 MW from Limestone generating station) and the thermal plants had a total capacity of 369 MW. The 1 330 MW Limestone generating station is expected to be completed in 1992. At that time, MH's total installed capacity will be 5 197 MW with an additional 330 MW available through a diversity exchange with Northern States Power Company ("NSP") in the U.S. In 1993 MH will commence a firm export to NSP of 500 MW, under a separate licence obtained in 1985, which will extend until 2005.

In the fiscal year ending 31 March 1991 MH's peak load was 3 586 MW. It supplied 14.6 billion kW.h to a total of 372 069 customers. Winnipeg Hydro served about 90 000 additional customers.

MH's transmission system includes alternating current lines at voltages of 138 kV, 230 kV and 500 kV, as well as two \pm 500 kV high-voltage, direct-current transmission lines which connect northern generating stations on the Nelson River to loads in the south of the province. The Applicant has four 230 kV interconnections with SaskPower as well as two 230 kV and one 115 kV interconnections with Ontario Hydro. Interconnections with U.S. utilities include two 230 kV and one 500 kV lines. The combined capacity of interconnections with neighbouring utilities is 1 850 MW, with ties to utilities in the U.S. accounting for 1 450 MW of this capacity. MH is a liaison member of the Mid-Continent Area Power Pool ("MAPP") of the North American Electric Reliability Council.

The map attached as Appendix I provides additional information regarding MH's generation and transmission system. MH currently holds nine export licences which are summarized in Appendix II.

2.2 Manitoba Energy Authority

Manitoba Energy Authority ("MEA") is a Crown Corporation established in 1980 by the Manitoba Legislature under the *Manitoba Energy Authority Act*, being Chapter E 112 of the Revised Statutes of Manitoba, 1987. It is, inter alia, vested with the statutory duty and power to negotiate or direct negotiations for the sale or purchase of electrical energy. MH requires the approval of MEA to import or export electricity.

2.3 The Export Customers

2.3.1 *Northern States Power Company*

NSP is a diversified investor-owned utility which serves customers in Minnesota, Wisconsin, North Dakota, South Dakota and Michigan's Upper Peninsula. NSP generates, transmits and distributes electricity to 1 318 935 customers, distributes natural gas to 358 155 customers and supplies telephone service in Minot, North Dakota. The utility's total generation capability, as of 31 December 1990, was 6 813 MW in the summer and 7 159 MW in the winter with a generating mix of 55.0 percent coal, 22.6 percent nuclear, 16.5 percent oil, 3.8 percent hydro and 2.1 percent other. In 1990, NSP experienced a summer peak load of 6 733 MW and had a net system requirement and electricity purchase of approximately 38.7 TW.h and 6.4 TW.h respectively.

NSP is a long-term customer of MH. Transactions with MH, including diversity exchanges, have been taking place since the construction of MH's first international power line which was authorized by the Board in 1970.

2.3.2 *United Power Association*

United Power Association ("UPA") is a generation and transmission cooperative supplying wholesale power to 15 member distribution cooperatives, which in turn serve approximately 234 000 member-consumers located in Minnesota and Wisconsin. The utility's total generating capability, as of 31 December 1990, was 754 MW in the summer and 779 MW in the winter with a generation mix of 91.4 percent coal and 8.6 percent gas. UPA experienced a summer peak load of 624 MW in 1990. Energy sales to members and non-members were 2.9 TW.h and 1.6 TW.h respectively.

UPA signed agreements with MH in November 1989 which included an interconnection which made possible the diversity exchange covered by this application.

Chapter 3

Requested Authorizations

MH has entered into summer/winter diversity exchange agreements with NSP and UPA under which it will supply firm power and energy to the U.S. utilities during the Summer Season (1 May through 31 October) and the U.S. utilities will in turn supply firm power and energy to MH during the Winter Season (1 November through 30 April). To authorize the export portion of transactions under the diversity exchange agreements, MH requested the following three permits:

Permit 1 - to export to NSP up to 200 MW of firm power and 883 GW.h of energy, equivalent to 100% seasonal capacity factor, in each Summer Season, starting in 1997 and ending in 2016, for an overall period of 20 years.

Transactions would be in accordance with the NSP - MH Diversity Exchange Agreement dated 16 November 1987 (Appendix VI of the application).

Permit 2 - to export to NSP up to 400 MW of firm power and 1766 GW.h of energy, equivalent to 100% seasonal capacity factor, in each Summer Season in 1992, 1993 and 1994, changing to 150 MW and 663 GW.h, equivalent to 100% seasonal capacity factor, in each Summer Season from 1995 through 2014, for an overall period of 23 years.

Transactions would be in accordance with the NSP - MH Diversity Exchange Agreement dated 1 February 1991 (Appendix VII of the application).

Note: Although MH requested that the term of this permit start on 1 May 1992, the Board was unable to complete its review prior to that date. Accordingly, MH applied for authorization to make the exports it would have made under this permit, during 1992, under existing Licence EL-102. The Board granted this authorization after confirming that the proposed exports would meet all the conditions of Licence EL-102.

Permit 3 - to export to UPA up to 150 MW of firm power and 663 GW.h of energy, equivalent to 100% seasonal capacity factor, in each Summer Season, starting in 1995 and ending in 2018, for an overall period of 24 years.

Transactions would be in accordance with the UPA - MH Diversity Exchange Agreement dated 1 February 1991 (Appendix VIII of the application).

The total of simultaneous exports at the upper limit of the three permits would be 400 MW in 1992, 1993 and 1994 and 500 MW in all subsequent years.

Seasonal diversity exchanges between MH and the U.S. utilities are made possible by the fact that the peak load period for MH occurs in the winter while the peak load periods of the neighbouring U.S. power systems occur in the summer. Part of the generating capacity installed by MH to supply its peak load is not required to supply its own load during the summer and this capacity can be used to supply power and energy to the U.S. utilities to be returned in the winter if required to help MH meet its peak load.

Information Supplied by the Applicant

4.1 Provincial and U.S. Approvals Related to the Exports

4.1.1 *Provincial Approvals*

MH stated that the Provincial authorization requirements that must be satisfied are:

- the MEA approval for the export of electricity; and
- an Order in Council issued by the government of the Province of Manitoba.

Both of these approvals have been received and copies of the related documents were included in the application.

4.1.2 *U.S. Approvals*

MH stated that both NSP and UPA must obtain MAPP approval for the accreditation of the seasonal diversity power to be obtained from MH. They must also obtain approval of the Federal Energy Regulatory Commission ("FERC") for the return of energy to MH as required under the diversity exchange agreements. In addition, UPA must obtain approval from the Administrator of the Rural Electrification Administration ("REA").

MH indicated that NSP has already received MAPP approval and will apply for FERC approval early in 1992. UPA has applied for MAPP approval but has not yet received it. UPA has also applied for REA approval and is expecting to receive it shortly. UPA advised MH that FERC approval is obtained at the same time as REA approval as both are agents of the U.S. federal government. MH stated that, in all cases, there is no indication of problems in obtaining the outstanding approvals.

4.2 The Impact of the Exports on the Environment

This section describes that part of the information supplied by MH regarding the impact of the exports on the environment which is relevant to the sending from Canada of the electricity involved in the exports, in accordance with the procedure outlined in Section 1.2 of these Reasons for Decision.

MH stated that the exports covered by the requested permits would be made over its existing international power lines which include two 230 kV and one 500 kV interconnections. No modifications to these lines would be required to make these exports.

MH also stated that, with current load growth expectations, the power and energy to be exported under the requested permits would not require additional generation facilities and the imports associated with those exports would allow deferral of new plants and associated transmission which might otherwise be required to meet its load.

Finally, MH indicated that it complies with all current provincial and federal legislation in the operation and maintenance of its system.

4.3 The Effect of the Exports on Provinces Other than Manitoba

In the application, MH stated that it was not aware of any negative impact in the provinces of Ontario or Saskatchewan. Furthermore, MH advised that, to its knowledge, the proposed exports would not have negative impacts on the reliability and stability of service in systems outside of Manitoba. In fact, they would result in a net positive impact outside of Manitoba.

The exports could be confined to existing transmission facilities between Canada and the U.S. Potential loop flows through Ontario and Saskatchewan could be suppressed with phase-shifting transformers located at Whiteshell, Manitoba, and Boundary Dam, Saskatchewan.

Since the proposed exports would occur in the summer, a light-load period for Canadian systems, there would be no effect on the reliability and stability of their power systems due to a reduction in their operating reserve margins.

4.4 Fair Market Access

Fair market access was dealt with extensively in correspondence between MH and OH and in their submissions to the Board. That correspondence and the submissions are described in Chapter 5 of these Reasons for Decision. This section will concentrate on other information supplied by MH.

Under each of the diversity exchange agreements associated with the proposed exports MH is required to supply, as a minimum, an amount of energy which will result in an average of the monthly capacity factors equal to twenty percent over each summer season. The supply of additional energy would be at MH's option. For Permit 2, this clause only comes into effect in 1995 because the associated agreement requires MH to make 400 MW of capacity available during specified on-peak hours in 1992, 1993 and 1994. MH stated that it considers these minimum delivery requirements to be firm commitments.

MH indicated that it had already provided fair market access to the energy involved in the minimum energy delivery requirements by offering to sell the associated power and energy to accessible Canadian markets. MH provided copies of its letters to Ontario Hydro and SaskPower, the two adjacent Canadian utilities, containing the offers. The letters offered to enter into diversity exchange arrangements under terms and conditions similar to those in the agreements with the U.S. utilities, except that the maximum amounts of energy to be made available would be limited to the equivalent of the minimum delivery requirements under those agreements. These offers were not accepted.

For those years when it has more surplus energy than required to meet the minimum delivery requirements under the diversity agreements, MH stated that neighbouring Canadian utilities will be offered fair market access to this energy at the appropriate time. The procedure which MH proposes to use for identifying and disposing of surplus energy in the future is described below.

At present MH carries out detailed analyses twice a year to determine the amount of its surplus energy. These occur in April as required under existing licences issued by the Board and in July/August for its Integrated Financial Forecast. If it is determined that a surplus will exist and negotiations result in a long-term sale being negotiated with a neighbouring utility, the MH system is operated so as to ensure that adequate energy is maintained in reservoir storage to satisfy the new sale plus MH's other firm requirements. Additional quantities may become available in the short term due to such factors as changing load conditions, precipitation and generator availability. These can not be predicted with any degree of confidence.

When MH has surplus energy available for sale, it would enter into concurrent negotiations with all accessible markets. In these negotiations, MH would identify the quantity of energy and the period of

time for which it would be available. The class of service to be provided (and the price) would be determined during the negotiation process.

In this negotiation process, if a Canadian utility has shown an interest but no deal was concluded before MH arranges a sale to a U.S. utility, MH would pursue further negotiations with the Canadian utility before finalizing a transaction with the U.S. utility. Also MH noted that, if it were to arrange a contract with a Canadian utility for part of MH's surplus energy in any year, there would be no incentive for it to sell the remainder to one or more U.S. utilities at a lower price without providing Canadian utilities with an opportunity to negotiate the purchase of this energy. The only exception would be in a case where the capacity of MH's interconnections with Canadian utilities was not sufficient to carry the additional energy.

MH would evaluate offers received during the negotiation process in terms of the "benefit to Manitoba consumers" and would accept the offer providing the greatest such benefit. In determining this benefit, MH would consider all factors, including price, involved in the terms and conditions of a potential sale. An example of factors other than price which might be considered is the benefit to MH which would result from the obligation on the part of the buyer to return an equal amount of energy when required by MH.

To demonstrate its intention to provide fair market access for Canadian utilities to its surplus energy, MH stated that it would compensate any accessible Canadian utility which could demonstrate that MH had exported energy at terms and conditions less favourable than those offered by the Canadian utility. MH stated that, on request, it would advise any neighbouring Canadian utility of terms and conditions under which energy was exported.

MH added that if the negotiations described above did not result in an offer which would produce more benefit to Manitoba consumers than would be obtained from increased exports under the diversity exchange agreements, the surplus energy might be exported as diversity energy. The benefits from such exports would be known because the price is set in the agreements.

Finally, MH stated that, prior to exporting diversity energy above the minimum requirements in the contracts, neighbouring Canadian utilities would be provided fair market access to the energy involved. MH would not object to this being made a condition in the requested permits.

4.5 Term of the Requested Permits

MH requested that the three permits have terms of twenty years for Permit 1, twenty-three years for Permit 2 and twenty-four years for Permit 3.

MH stated that diversity exchanges such as those which would take place under the requested permits provide firm capacity which the utilities involved use in their planning processes. In the short term this capacity improves the reliability and stability of the power systems by increasing their operating reserves and, in the long term, may defer the construction of new generation and associated transmission facilities. In addition, the diversity exchange agreements contain provisions under which MH may obtain energy from the U.S. systems during periods, such as years with low rainfall, when its energy capability is low.

Interventions, Submissions and the Applicant's Responses

5.1 Interventions

The Board received six interventions in respect of the application. Only one intervenor, Ontario Hydro ("OH"), went on to present a submission.

Ken Emberley, the only private citizen to intervene, assumed that there would be a public hearing. He expressed a general concern regarding the effect of exports on the "sustainable development" model of running the economy.

The interventions of Energy Brokers Canada Inc., the Ministry of Energy, Mines and Petroleum Resources of British Columbia and TransAlta Utilities Corporation indicated that they did not intend to participate actively in the process but rather to act as observers with "watching briefs".

The North American Water Office, a nongovernment organization, indicated concern over the effect of the proposed exports on indigenous populations and the need for the exports considering the very large potential for more efficient use of electricity. It did not submit any information to support its concerns with respect to this application.

OH, in its intervention, indicated concern over the issue of fair market access and stated that it might make a submission on this subject and any other matter which might become apparent during a complete review of the application.

5.2 The Submission of Ontario Hydro and Manitoba Hydro's Response

In its submission, dated 4 December 1991, OH presented concerns in three areas. Those concerns and MH's responses are summarized in the following sections. OH stated that subject to its concerns being addressed, it would not recommend that the application be subject to a public hearing.

5.2.1 *Priority of Supply*

OH was concerned that the export of energy under the diversity exchange agreements, above the minimum delivery requirements, might result in a reduction of the energy to be supplied to it under its System Participation Agreement with MH.

The System Participation Agreement provides that MH shall, inter alia, make specified amounts of Supplemental Energy available to OH in each month during the contract term. Supplemental Energy may, however, be reduced to zero in any month in which MH forecasts Low Flow Conditions. Low Flow Conditions are defined in the Agreement as a forecast condition in which the amount of electric energy imported into Manitoba is expected to exceed the amount exported, excluding any Supplemental Energy to be provided. The Agreement provides that energy, exported from Manitoba pursuant to firm commitments made more than six months before the month in question, should not be included in the summation of "energy exported from Manitoba" to be used in the determination of whether or not Low Flow Conditions will be forecast for that month.

OH was concerned that any energy supplied pursuant to the Diversity Exchange Agreements, above the minimum delivery requirements, would be considered firm commitments. OH considered that such commitments, if made less than six months prior to the time of export, would be included in any energy balance calculations and could result in the forecast of Low Flow Conditions, causing a reduction of the supply of Supplemental Energy from MH.

OH submitted that energy supplied pursuant to the diversity exchange agreements above the minimum requirement of twenty percent seasonal capacity factor is, and should be classified as, interruptible since the diversity agreements give MH the right to limit deliveries to this minimum value. OH further submitted that any energy beyond MH's firm commitments should be first made available to it as Supplemental Energy. It proposed that a condition be inserted in any approvals given to the Applicant requiring that, before exporting energy beyond the minimum delivery requirements under the diversity exchange agreements, MH must first supply Supplemental Energy to OH as provided for in the System Participation Agreement.

In a letter to the Board, dated 8 April 1992, concerning information supplied by MH at a later stage of the review, OH repeated its contention that energy above the minimum requirement should be classified as interruptible.

In response to the submission, MH stated that OH had been aware of the provisions of the diversity exchange agreements when negotiating priority of supply for the System Participation Agreement with MH. It also stated that consideration of energy above twenty percent capacity factor as firm may require additional resources on its system to support the export. MH does not intend to ensure that such "firm" resources will be available. MH indicated that the access of neighbouring Canadian utilities to energy above the minimum delivery requirements was adequately protected by its undertaking in the application to offer fair market access to energy in excess of monthly capacity factor obligations at the appropriate time. Finally, MH contended that the Board should not condition an export approval in a way to influence a negotiated contract.

5.2.2 Fair Market Access

In the process first outlined by MH for ensuring fair market access, MH would, when it identifies energy available for sale, first offer this energy to accessible Canadian utilities and would expect an appropriate negotiation of price to occur prior to undertaking negotiations with U.S. utilities. The energy would be sold to the utility that would provide the maximum benefit as determined by the negotiation process.

OH was concerned that this process might not provide an appropriate length of time for negotiations and thus would not provide fair market access to neighbouring Canadian utilities. It concluded that the only practical mechanism for ensuring fair market access is to provide neighbouring Canadian utilities with interception rights to any energy to be exported under the requested permits, beyond the minimum delivery requirements under the diversity exchange agreements.

In response to this submission, MH stated first that it understood the principle of fair market access to mean that the exporter must ensure that Canadians wishing to purchase electricity to satisfy the requirements of their own domestic service areas be provided an opportunity to negotiate terms and conditions (including price) no less favourable than those offered to export customers. MH considered an unfettered negotiation between a willing buyer and a willing seller to be a fair mechanism to provide fair market access.

Also MH stated that it objected to the interception process on the grounds that it could be a cost to an exporter. This could occur if a potential Canadian customer waits for the exporter to negotiate a deal with a U.S. buyer and then uses interception to obtain the energy under more favourable terms and conditions

than it could have otherwise negotiated. Also, MH stated that interception is not equitable because a Canadian utility could intercept an export and use it to displace a purchase which had been previously negotiated at a higher price. MH further stated that interception gives a Canadian buyer a competitive edge in negotiating a purchase from a Canadian seller and, furthermore, it encourages a Canadian buyer not to demonstrate a serious intent to purchase before the Canadian seller completes its negotiations with the U.S. utilities. Finally, MH stated that interception reduces flexibility when negotiating export contracts because pricing formulas which might involve such quantities as incremental or decremental costs can not be used because the price must be known.

MH then went on to describe the process for offering energy beyond the minimum twenty percent capacity factor requirement to accessible Canadian utilities. This would be done as soon as possible after the energy is determined to be available and would be done concurrently to all accessible markets. Utilities interested in purchasing the energy must then indicate an interest and enter into negotiations. MH would then sell the energy to the market that would provide the maximum benefit to Manitoba consumers. It should be noted that this is different from the process described earlier to OH, wherein MH would hold negotiations first with Canadian utilities and then with American utilities. Finally, MH undertook to compensate any accessible Canadian utility for benefits lost if it could show that MH exported energy for less benefit than would have been available from the last offer of an accessible Canadian utility.

In its letter to the Board dated 8 April 1992, OH stated that, if an appropriate amount of time was available for negotiations, the procedure described by MH would be feasible. However, if insufficient time were available, OH suggested that the current interception process would be more appropriate. OH also stated that, based on its understanding of the nature of MH's system, it is likely that the identification of excess energy which might be exported under the diversity exchange agreements would occur a month in advance of deliveries. OH considered that under these conditions fair market access could be provided by means of negotiations. For energy to be delivered in less than a month's time, OH suggested that the interception process would be more appropriate.

In response to OH's letter of 8 April 1992, MH stated that the process suggested by OH was based on an incorrect understanding of MH's system. In clarification, MH then stated that, due to legal and physical constraints, it is necessary for MH to release water from storage up to one month in advance of forecast needs. If load varies from the forecast values or local inflows are greater than expected, there may be surplus energy available on short notice. In such cases all utilities interested in purchasing the surplus energy would have the same time to negotiate. MH contended that, in a case with a short time constraint, interception would not be desirable because more time would be required to first conduct a negotiation process with U.S. utilities and then an interception process with Canadian utilities.

5.2.3 Impacts

OH expressed its satisfaction with the process established for collaborating with MH in studies necessary to determine whether the proposed exports could have adverse effects on the operation of the OH system. This process involves the OH and MH Transmission Planning Staffs cooperating in identifying specific concerns and in the execution of studies. MH, in its letters of 15 October 1991 and 20 November 1991, stated that it expected this process to be completed by 15 January 1992.

MH did not respond directly to the submission on this point but it did indicate in a letter to OH, dated 15 October 1991, that it considered that the joint studies being carried out related to the operation of new equipment to be installed at MH's Dorsey station to increase the amount of electricity it can export. MH considered that the studies were not related to the processing of this application as the proposed exports could be made over existing facilities.

6.1 Provincial and U.S. Approvals Related to the Exports

The Board is satisfied that all the approvals required for the proposed exports in both Manitoba and the U.S. either have been received or will be received in time to permit the exports to proceed on schedule.

6.2 The Impact of the Exports on the Environment

The judgement of the Federal Court of Appeal, described in Section 1.2 of these Reasons for Decision, indicated that the Board, in respect of the impact of an export of electricity on the environment, may consider only the impact of the sending from Canada of the electricity involved. Consequently, the Board did not consider the environmental impact of the generation by MH of the electricity which might be exported under the requested permits but had regard only to the impact on the environment of the transmission, or sending from Canada, of the proposed exports.

The Board notes that the sending of the proposed exports from Canada may occur over any or all of MH's international power lines. The environmental impact assessments which the Board conducted when it issued to MH its Certificates of Public Convenience and Necessity to construct its 230 kV international power lines, together with the environmental screening of MH's planned upgrading of its 500 kV interconnection with the United States, dealt with the impact on the environment of operation of the international power lines involved at full load. These assessments found that there were no unacceptable impacts at this load level. The exports which are the subject of this review are only a part of the electricity which could be exported over the Applicant's international power lines and would have a lesser impact on the environment.

Also, no new information or facts concerning the impact of the exports on the environment were submitted to the Board in this review.

Finally, the Board notes that MH stated that it complies with all current provincial and federal legislation in the operation and maintenance of its system.

The Board is satisfied that the sending from Canada of the electricity involved in the proposed exports would not have any unacceptable impact on the environment.

6.3 The Effect of the Exports on Provinces Other Than Manitoba

The Board is aware that, in connection with the recently approved upgrade of the terminal facilities of MH's 500 kV international power line at Dorsey station, studies were carried out by MH in cooperation with Ontario Hydro and SaskPower which dealt with the effect on adjacent power systems of exports over all of MH's international power lines up to the maximum transfer capability of 1 900 MW. Information submitted by MH concerning those studies showed that neither Ontario Hydro nor SaskPower had any concern over exports at that level. In comparison, the proposed exports would amount to no more than 500 MW if made simultaneously and would have less effect on neighbouring power systems than the case which was studied.

The Board is, therefore, satisfied that the proposed exports would not have any unacceptable effect on the reliability and stability of operation of the power systems in adjacent provinces.

6.4 Fair Market Access

The Board accepts that the energy which could be exported under the requested permits can be divided into two parts: the first part being the energy involved in meeting the minimum delivery requirements under the diversity exchange agreements ("minimum delivery requirements") and the second part being any additional energy up to the maximum amount which could be exported under the requested permits ("additional diversity exports"). Fair market access must be provided to both of these parts.

6.4.1 Minimum Delivery Requirements

The Board agrees that supplying the minimum delivery requirements is a firm commitment by MH.

The Board is satisfied that the offers made by MH to OH and SaskPower to enter into diversity exchange agreements similar to those involved in the proposed exports are an adequate provision of fair market access to the first part of the energy.

6.4.2 Additional Diversity Exports

Before dealing with the question of the provision of fair market access by MH to any additional diversity exports it may wish to make, the Board will address the concerns raised by OH in its submission.

Turning first to OH's statement that exports above the minimum delivery requirements under the diversity exchange agreements should be classified as interruptible, the Board considers that it is up to the Applicant to classify its surplus energy with respect to the class of service available for sale. The Board does not wish to limit in this way the possible commercial arrangements which the Applicant might be able to negotiate for its energy surpluses. The Board, therefore, is not prepared to require MH to classify additional diversity exports it may wish to make as interruptible.

Turning next to the question of the priority of supply of Supplemental Energy with respect to proposed additional diversity exports, the Board considers that the supply of Supplemental Energy is part of an interprovincial agreement and recognizes that there may be other interprovincial or intraprovincial agreements involving MH which may be affected by additional diversity exports. The Board is of the view that the commercial arrangements in all such agreements were negotiated between parties who understood the priorities assigned to the services involved. Moreover, as the Board is not prepared to require MH to classify the proposed additional diversity exports as interruptible, it cannot, *a priori*, state that the supply of Supplemental Energy to OH must take precedence over such exports. Again, to do so would be limiting the range of possible commercial arrangements available to MH, which the Board is not prepared to do. Finally, the Board's mandate is to ensure that Canadians are offered fair market access to whatever energy applicants wish to export. The Board believes that it does not need to consider the matter of priority of supply in its review of this application as it is satisfied that the question of priority will not affect the provision of fair market access to any additional diversity exports.

OH also expressed a concern over the length of time available for negotiations and this will be addressed as part of the consideration of fair market access below.

The Board turns now to the provision of fair market access to exports under the diversity exchange agreements above the minimum delivery requirements. The Board notes, first, that MH has described a process for disposing of any surplus energy it may have in the future, after supplying the minimum

delivery requirements, which would involve concurrent negotiations with all potential markets. MH claimed that this process would provide fair market access for prospective Canadian purchasers of its surplus energy. The Board recognizes that the negotiation process described by MH could result in different types of transactions in different cases but only one such type of transaction is of concern in this review because it is the only one which might involve exports under the requested permits. The transaction of concern could arise if the negotiations did not result in the disposal of all of MH's surplus energy under terms and conditions more beneficial than those of the diversity exchange agreements. MH has indicated that it might decide to dispose of the energy for which more beneficial terms and conditions could not be arranged as exports under the diversity exchange agreements. The Board must satisfy itself that fair market access to the energy involved in such exports will be provided before such increased diversity exports are made.

If MH were to decide to make diversity exports under the requested permits above the minimum delivery requirements, MH must inform prospective Canadian purchasers of the quantity of energy which it proposes to export under the diversity exchange agreements prior to making such exports and must then provide fair market access to this energy.

The Board considers that the provision of adequate time for negotiation is an integral part of fair market access. The Board recognizes that in the procedure described by MH this time may, in some cases, be less than that desirable for such negotiations. However, the Board notes that all those interested in purchasing the surplus energy will have the same time to negotiate. Furthermore, the time restrictions will be imposed by the circumstances under which the energy becomes surplus and not by the negotiation process. The Board considers that the length of time available for negotiation would not interfere with the provision of fair market access in this case.

Finally, the Board is satisfied that with the procedure outlined above which MH must follow prior to making additional diversity exports, OH's concerns regarding the length of time available for negotiations has been satisfied.

6.5 Term of the Requested Permits

The Board notes that the requested permits are each tied to specific diversity exchange agreements covering periods ranging from twenty-three to twenty-five years. The Board recognizes that, of necessity, such agreements are typically long-term as they play a role in the process of system planning through deferring the requirement to build new facilities. To permit MH to realize the benefits made possible by its diversity exchange agreements, the permits associated with these agreements must have corresponding terms.

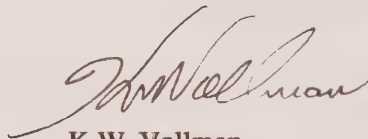
The Board is satisfied that the requested terms of the permits are reasonable.

Chapter 7 Disposition

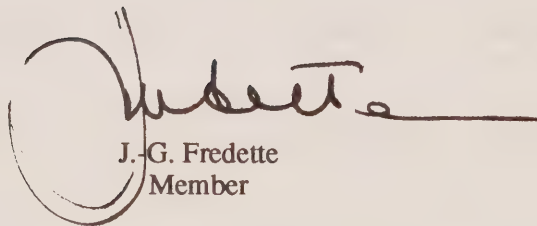
After considering the information provided by the Applicant and the interventions and submissions of interested parties, the Board is of the view that a public hearing is neither required nor necessary and has decided not to recommend to the Minister that the Governor in Council designate Manitoba Hydro's application for licensing as it has not identified any issues which would benefit from further public review.

The Board, having satisfied itself that the exports would not have any unacceptable effect on provinces other than Manitoba, that pursuant to paragraph 12 (c) of the *Environmental Assessment and Review Process Guidelines Order* the impact of the export on the environment would be insignificant or mitigable with known technology, that the Applicant has provided, or will provide, fair market access to the exports, and having regard to all other considerations that appear to it to be relevant is prepared to issue to Manitoba Hydro permits granting the requested authorizations. Terms and conditions applicable to each permit are set out in Appendices III, IV, and V. The term of Permit EPE-34 will commence on 1 November 1992 instead of 1 May 1992 as requested in the application. Finally, Manitoba Hydro is requested to supply to the Board, by the 15th day after the end of each month during the term of the permits, a report setting forth, for each permit, the quantities of power and energy exported or imported and the associated revenues and costs.

The foregoing constitutes our Reasons for Decision in the present application of Manitoba Hydro pursuant to Part VI of the *National Energy Board Act*.



K.W. Vollman
Presiding Member



J.-G. Fredette
Member



A.B. Gilmour
Member



Licenses Held by Manitoba Hydro

<u>Licence Number</u>	<u>Description</u>	<u>Commencement Date</u>	<u>Termination Date</u>	<u>Customer</u>
EL-97	- Interruptible Energy - 19 500 GW.h for entire licence term	1 May 1980	31 October 1992	NSP
EL-98	- Firm Power (summer peaking capacity) - 200 MW/876 GW.h per calendar year - export period 1 May - 31 October	1 May 1980	31 October 1992	NSP
EL-99	- Firm Equichanges (seasonal diversity capacity) - 300 MW/262.8 GW.h per calendar year - export period 1 May - 31 October	1 May 1980	30 April 1993	NSP
EL-100	- Carrier Transfers and and Unscheduled Loop Flows - 800 GW.h per consecutive 12-month period	1 May 1980	31 October 1992	Various
EL-101	- Firm Energy Storage Transfers - 2 500 GW.h per consecutive 12-month period - exports must equal imports less loss and spillage	1 May 1980	31 October 1992	Various

<u>Licence Number</u>	<u>Description</u>	<u>Commencement Date</u>	<u>Termination Date</u>	<u>Customer</u>
EL-102	<ul style="list-style-type: none"> - Short Term Firm Sale and Equichange Transfers (assured delivery) - lesser of 800 MW or surplus system capacity - per operating year the lesser of 5 000 GW.h or 65% of energy surplus plus energy imported as return of energy exported 	1 May 1980	31 October 1992	Various
EL-103	<ul style="list-style-type: none"> - Interruptible Energy - 12 000 GW.h per consecutive 12-month period less exports under EL-97, EL-98, EL-99, EL-100, EL-101 and EL-102 	1 May 1980	31 October 1992	Various
EL-170	<ul style="list-style-type: none"> - Firm Power and Energy - 500 MW/3 405 GW.h per consecutive 12-month period 	1 May 1993	30 April 2005	NSP
EL-174	<ul style="list-style-type: none"> - Firm Power and Energy - 200 MW/883 GW.h during each 6-month period from May through October - export period 1 May - 31 October 	1 May 1993	31 October 1996	NSP

Appendix III

Terms and Conditions of Export Permit EPE-33 Export of Firm Power and Energy to NSP

1. The term of this permit shall commence on 1 May 1997 and shall end on 31 October 2016.
2. The class of transfer authorized hereunder shall be the sale transfer of firm power and energy as a diversity exchange.
3. The energy to be exported hereunder may be transmitted over any international power line for which the Board has issued a certificate of public convenience and necessity.
4. The exports made hereunder shall be in accordance with the Diversity Exchange Agreement dated 16 November 1987 between Manitoba Hydro and Northern States Power Company.
5. Any amendment or addition to, termination or substitution of the agreement referred to in Condition 4 shall not be effective until approved by the Board.
6. The quantity of power that may be exported hereunder shall not exceed 200 MW.
7. The quantity of energy that may be exported hereunder shall not exceed 883 GW.h in any Summer Season (1 May through the following 31 October).
8. Manitoba Hydro shall not export energy hereunder above the minimum delivery requirements of the Diversity Exchange Agreement without:
 - (i) first informing Canadians who have declared an interest in buying electricity for consumption in Canada of the quantity of energy, above the minimum delivery requirements of the Diversity Exchange Agreement, which it proposes to export; and
 - (ii) giving an opportunity to purchase all or part of such exports to those who, within a reasonable time after being so informed, demonstrate an intention to buy the energy for consumption in Canada, on terms and conditions as favourable as those which would apply to the proposed exports, as specified in the agreement referred to in Condition 4 above.

**Terms and Conditions of Export Permit EPE-34
Export of Firm Power and Energy to NSP**

1. The term of this permit shall commence on 1 November 1992 and shall end on 31 October 2014.
2. The class of transfer authorized hereunder shall be the sale transfer of firm power and energy as a diversity exchange.
3. The energy to be exported hereunder may be transmitted over any international power line for which the Board has issued a certificate of public convenience and necessity.
4. The exports made hereunder shall be in accordance with the Diversity Exchange Agreement dated 1 February 1991 between Manitoba Hydro and Northern States Power Company.
5. Any amendment or addition to, termination or substitution of the agreement referred to in Condition 4 shall not be effective until approved by the Board.
6. The quantity of power that may be exported hereunder shall not exceed 400 MW in the years 1993 and 1994 and 150 MW in the years from 1995 to 2014 inclusive.
7. The quantity of energy that may be exported hereunder shall not exceed 1 766 GW.h in any Summer Season (1 May through the following 31 October) in the years 1992, 1993 and 1994 and 663 GW.h in any Summer Season in the years from 1995 to 2014 inclusive.
8. Manitoba Hydro shall not export energy hereunder above the minimum delivery requirements of the Diversity Exchange Agreement without:
 - (i) first informing Canadians who have declared an interest in buying electricity for consumption in Canada of the quantity of energy, above the minimum delivery requirements of the Diversity Exchange Agreement, which it proposes to export; and
 - (ii) giving an opportunity to purchase all or part of such exports to those who, within a reasonable time after being so informed, demonstrate an intention to buy the energy for consumption in Canada, on terms and conditions as favourable as those which would apply to the proposed exports, as specified in the agreement referred to in Condition 4 above.

**Terms and Conditions of Export Permit EPE-35
Export of Firm Power and Energy to UPA**

1. The term of this permit shall commence on 1 May 1995 and shall end on 31 October 2014.
2. The class of transfer authorized hereunder shall be the sale transfer of firm power and energy as a diversity exchange.
3. The energy to be exported hereunder may be transmitted over any international power line for which the Board has issued a certificate of public convenience and necessity.
4. The exports made hereunder shall be in accordance with the Diversity Exchange Agreement dated 1 February 1991 between Manitoba Hydro and United Power Association.
5. Any amendment or addition to, termination or substitution of the agreement referred to in Condition 4 shall not be effective until approved by the Board.
6. The quantity of power that may be exported hereunder shall not exceed 150 MW.
7. The quantity of energy that may be exported hereunder shall not exceed 663 GW.h in any Summer Season (1 May through the following 31 October).
8. Manitoba Hydro shall not export energy hereunder above the minimum delivery requirements of the Diversity Exchange Agreement without:
 - (i) first informing Canadians who have declared an interest in buying electricity for consumption in Canada of the quantity of energy, above the minimum delivery requirements of the Diversity Exchange Agreements which it proposes to export; and
 - (ii) giving an opportunity to purchase all or part of such exports to those who, within a reasonable time after being so informed, demonstrate an intention to buy the energy for consumption in Canada, on terms and conditions as favourable as those which would apply to the proposed exports, as specified in the agreement referred to in Condition 4 above.

